E-MAIL MEMORANDUM

To: Mike Villegas – VCAPCD

From: Tom Umenhofer – ENTRIX

Date: June 21, 2004

Subject: **VCAPCD Letter to USEPA Regarding the Cabrillo Port Project**

Thank you for providing an advanced copy of your letter to USEPA regarding their request for VCAPCD Rule 26 interpretation. I want to take this opportunity to confirm my understanding of the intent and conclusions of your letter.

It is my understanding that the intent of your letter is to simply answer the question that was asked by USEPA: How does VCAPCD Rule 26 apply to marine vessels? I further understand that the District in no way endorses the USEPA's position regarding the applicability of VCAPCD Rule 26.

As you know, BHPB as the applicant for the Cabrillo Port Project is strongly opposed to preliminary determination by USEPA that VCAPCD Rule 26 applies to the Project. While your letter does not address the issue of applicability, I believe it is important to reinforce that the assumption that VCAPCD Rule 26 applies to the Cabrillo Port Project is an assumption made by USEPA-Region IX and USEPA-Region IX alone.

Based on that assumption, your letter also indicates that marine vessels such as proposed for the Cabrillo Port Project (as a purely hypothetical case), little or no emission offsets would be required since:

- Activities such as hoteling are outside District waters and not required to be offset,
- Combustion emissions from marine vessels outside of District waters are not required to be offset, and
- Fugitive emissions from Project-related marine vessels are negligible (i.e., LNG transfer is a closed system).

BHPB has provided USEPA with a Comprehensive and compelling legal brief (which you also have received) supporting the position that the Cabrillo Port Project is subject to PSD and, therefore, is not subject to VCAPCD Rule 26 (NSR). With regard to consideration of the Cabrillo Port Project as a PSD source, the following key points are clear:

- The Cabrillo Port Project (specifically, the mooring location of the FSRU), is clearly well beyond District waters (and over 14 miles from the nearest landfall).
- The nearest offshore locations (Anacapa Island, San Nicholas Island, and Santa Barbara Island are designated either "attainment" or "unclassified" by USEPA and thus not subject to NSR or exempt from VCAPCD Rule 26.
- The nearest monitoring station (Emma Wood Station) to the proposed project is approximately 35 miles away and has shown air quality levels in attainment of the NAAQS.
- The nearest monitoring station which has shown a violation of the NAAQS is over 50 miles away from the proposed project and not in a "prevailing" wind direction.

- VCAPCD Rule 26 exempts U.S. Navy engines on San Nicholas Island (which is designated as "unclassified"). These engines were even exempt from BARCT while Cabrillo Port engines will be fitted with BACT.
- Predicted onshore impacts from the Cabrillo Port Project have been estimated to be less than significant levels for all criteria pollutants.

Thank you again for your thoughtful review. If you have any questions regarding this e-mail, please do not hesitate to contact me.

VENTURA COUNTY 1994
AIR QUALITY MANAGEMENT PLAN

Adopted by the Ventura County
Air Pollution Control Board
November 8, 1994

Ventura County Air Pollution Control District
Planning and Evaluation Section
669 County Square Drive
Ventura, California 93003

1. EXECUTIVE SUMMARY

The *Ventura County 1994 Air Quality Management Plan* (AQMP) was prepared primarily to satisfy statutory requirements of the 1990 federal Clean Air Act Amendments (CAAA). The CAAA requires the District to submit the following to the U.S. Environmental Protection Agency (EPA) by November 15, 1994:

- Post-1996 Rate-of-Progress. CAAA Section 182(c)(2)(B) requires the District to submit a plan that provides for at least a 9 percent reduction in volatile organic compound (VOC) emissions over each consecutive three-year period after 1996 until 2005.

- Attainment Demonstration. Section 182(c)(2)(A) requires the 1994 Plan to demonstrate attainment of the federal ozone standard by November 15, 2005, based on EPA-approved photochemical modeling.

- Contingency Measures. Sections 182(c)(9) and 172(c)(9) require that the 1994 AQMP include contingency measures to ensure continued progress toward attaining the federal ozone standard in Ventura County.

This Plan also includes information to update and supplement previous District submittals to EPA:

- Emission Inventory. The District's 1990 emission inventory required by Section 182(a)(1) was formally submitted to the EPA on November 15, 1993, following a public hearing before the District's Air Pollution Control Board on October 19, 1993. The 1994 Plan includes various updates to the 1990 emission inventory. Consequently, the District is required to hold a hearing to accept public testimony on the revised 1990 inventory before it can be submitted to EPA.

- 1990 - 1996 Rate-of-Progress. CAAA Section 182(b)(1) required the District to submit a plan that provides for at least a 15 percent VOC emission reduction between 1990 and 1996, by November 15, 1993. The Air Pollution Control Board adopted the *1993 Ventura County 15 Percent*

Rate-of-Progress Plan on October 19, 1993. Unfortunately, the EPA determined the Plan to be incomplete because it relied on controls that had not yet been adopted in regulatory form. The 1994 AQMP contains an updated demonstration that provides for the mandatory 15 percent reduction, based on adopted rules and regulations.

- Vehicle Miles Traveled. Section 182(d)(1)(A) required the District to demonstrate that on-road motor vehicle emissions will decrease over time despite increases in vehicle use. This information was submitted to EPA on November 15, 1993, after an October 19, 1993 public hearing. The District has revised its estimates of motor vehicle use and emissions, based on recent information provided by the Southern California Association of Governments and the California Air Resources Board (ARB). This updated information still demonstrates that emissions will decrease as vehicle use increases.

While the 1994 AQMP was prepared to satisfy the requirements of the federal CAAA, the District is also submitting the Plan to ARB to satisfy the following submittals required under the California Clean Air Act (CCAA):

- Triennial Progress Report. California Health and Safety Code (H&SC) Sections 40924(b) and 40924(c) require the District to conduct an assessment of its air quality control program every three years, starting in 1994.

- Triennial Plan Revision. H&SC Section 40925(a) requires the District to revise its 1991 AQMP at least once every three years, starting in 1994, to correct any deficiencies and to incorporate new data or forecasts.

- Overall Plan Requirements. H&SC Sections 40912 through 40922 specify the requirements that each CCAA plan submittal must satisfy. Of note, the District's Air Pollution Control Board must certify that the 1994 AQMP represents "a cost-effective strategy to achieve attainment of the state standards by the earliest practicable date."

The following sections present an overview of the information presented in the 1994 Air Quality Management Plan to satisfy the various federal and state regulatory mandates.

1.1 Statutory and Other Requirements

On November 15, 1990, President Bush signed the 1990 federal Clean Air Act Amendments into law. Central to the CAAA are specific dates by which all areas of the country must meet the federal clean air standards. To achieve this ambitious objective, the CAAA contains a vast number of new requirements, including stricter motor vehicle emission limits, new pollution controls on industrial facilities, use of less polluting vehicle fuels, and new permit and compliance programs. The CAAA also contains economic incentive strategies to encourage industry to curtail emissions voluntarily.

The CAAA applies to all federal clean air standards: ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, lead, and PM10 (inhalable particles). The federal ozone standard is the only federal clean air standard that Ventura County does not meet.

The CAAA classifies areas which do not meet the federal ozone standard based on the severity of each area's respective ozone problem. These classifications are marginal, moderate, serious, severe, and extreme. Marginal areas are closest to meeting the federal ozone standard, whereas the only extreme area (the greater Los Angeles area) has the worst ozone problem. Each area must not only comply with all the requirements for that classification, but also must comply with all the requirements for the lower classifications, unless otherwise specified. For example, a serious ozone nonattainment area must comply with all the requirements for serious, marginal and moderate areas.

This means that areas with more severe ozone problems have progressively more stringent requirements to meet under the CAAA. Also, an area's classification determines how long the area has to attain the federal ozone standard. Marginal areas have three years; moderate areas - six years; serious areas - nine years; severe areas - either 15 or 17 years, depending on the

magnitude of their respective ozone problem; and, the only extreme area - 20 years.

Ventura County is a severe-15 area, meaning that the federal ozone standard must be met by 2005 and must comply with most provisions of the CAAA. Such provisions include emission inventory and emission inventory updates, Reasonably Available Control Technology, enhanced vehicle inspection and maintenance, enhanced air monitoring, post-1996 Rate-of-Progress, and employee commute options. These and other CAAA provisions applicable to Ventura County are presented in Chapter 13, "Implementation of the 1994 AQMP."

The CAAA also provides sanctions that EPA can, and in some cases must, impose on areas that fail to meet CAAA requirements. The CAAA authorizes two types of mandatory sanctions: one affecting mobile sources, and one affecting stationary sources. They are: 1) withholding federal highway project funds, and 2) two-to-one emission offsets for new and modified major stationary sources. There also are discretionary sanctions that the EPA can impose, such as withholding grants for air quality planning.

The EPA may impose sanctions for: 1) failure to submit a required plan or a portion of a plan; 2) disapproval of a plan by the EPA; 3) failure to carry out the provisions in an approved plan; and 4) failure to submit any provision required by the CAAA. If the problem is not corrected within 18 months, the EPA must impose one of the two mandatory sanctions.

The EPA can impose both sanctions if an area fails to make a good-faith effort to correct the problem. On July 22, 1994, the EPA issued its final "order of sanctions" rule. The rule stipulates that the first sanction imposed will be the two-to-one emission offset. If the deficiency is not corrected within six months, federal highway funds will be withheld.

The California Clean Air Act (CCAA) was enacted on September 30, 1988, and became effective on January 1, 1989. The purpose of the CCAA is to achieve the more stringent health-based state clean air standards at the earliest practicable date. The CCAA divides areas that exceed the state clean air

standards into four categories: moderate, serious, severe, and extreme, depending on air pollution levels, with higher classifications having progressively more stringent requirements.

Under the CCAA, Ventura County is a severe ozone nonattainment area. As such, Ventura County must meet many of the most stringent requirements of the CCAA. Key CCAA requirements for severe ozone areas are: 1) a permitting program designed to mitigate emission increases from new or modified permitted sources; 2) application of best available retrofit control technology (BARCT) for existing sources; 3) provisions to develop area and indirect source control programs; 4) transportation control measures to substantially reduce the rate of increase in passenger vehicle trips and miles traveled per trip; 5) transportation control measures to achieve an average commuter ridership of 1.5 persons per vehicle by 1999, and no net increase in motor vehicle emissions after 1997; 6) measures to achieve the use of a significant number of low-emission vehicles by operators of motor vehicle fleets; 7) reducing population exposure to unhealthful levels of air pollution according to a prescribed schedule; and 8) submitting an air quality plan to the California Air Resources Board (ARB) by July 1, 1991, and triennial updates thereafter.

Moreover, the CCAA requires that districtwide air emissions be reduced at least five percent per year for each pollutant or its precursors (beginning in 1988), averaged over every consecutive three-year period. A district may use an alternative strategy that achieves a smaller average reduction if: 1) the alternative strategy is equal to or more effective in improving air quality than the five percent per year approach; or, 2) despite the inclusion of every feasible measure in the plan and an expeditious adoption schedule, the district is unable to reduce emissions by at least five percent per year.

The 1982 AQMP did not show that Ventura County would meet the federal ozone standard by December 31, 1987, as mandated by the 1977 Clean Air Act Amendments. In response, the Citizens to Preserve the Ojai sued the EPA in 1988. The lawsuit asked that the EPA disapprove the 1982 AQMP, impose a construction moratorium on new major air pollution sources and major modifications of existing sources of reactive organic compounds, and

prepare a Federal Implementation Plan (FIP) for achieving the federal ozone standard. Similar lawsuits were filed in the Sacramento and the Los Angeles areas.

A history of these lawsuits is presented in Chapter 13 of this Plan. In April 1993, the U.S. District Court for the Eastern District of California directed the EPA to propose and finalize a FIP for the Sacramento area by February 14, 1994, and February 14, 1995, respectively. The EPA and the plaintiffs for the Ventura County and Los Angeles area FIPs subsequently negotiated similar schedules. On February 14, 1994, the EPA issued proposed FIPs for all three areas. The final FIPs are due by February 14, 1995.

1.2 Effects of Air Pollution

According to a 1992 Gallup poll, 87 percent of adults in the United States believe that air pollution is a serious problem, but only 38 percent believe that air pollution is a serious health problem. The effects of air pollution on human health are less apparent than the diminished atmospheric visibility usually associated with air pollution, yet are much more damaging. Air pollution damages human health, agricultural crops, natural vegetation and materials. The greatest concern with air pollution is its ability to injure health.

Lung damage from ozone-polluted air is a risk faced by roughly three out of five Americans. Ozone (the major constituent of smog) and particulates cause 60,000 excess deaths per year nationally. Certain people are more sensitive to ozone. These include the elderly, athletes, children, and those who suffer from respiratory diseases, such as asthma, emphysema and chronic bronchitis.

Many plants and agricultural crops are damaged by air pollution. Plants are particularly susceptible to air pollution, with reduced growth often occurring before visible symptoms of injury are noticed. Yields of virtually all important agricultural crop plants are reduced by air pollution. Ozone probably causes more injury to vegetation than any other air pollutant. According to the California Department of Food and Agriculture, ozone

causes 80 to 90 percent of the air pollution-related agricultural losses in California. Current ozone levels in the United States are estimated to reduce potential crops by five to ten percent, resulting in an annual $3 to $5 billion loss.

Ozone and PM10 are the air pollutants of greatest concern in Ventura County. Not meeting federal and state air quality standards in Ventura County places one third of our population (approximately 240,000 people) at significant risk for health problems related to air pollution. Reducing air pollution is cost effective. The total national health cost from air pollution is about $75 billion annually. Meeting the federal health standards for ozone and PM10 in the South Coast Air Basin will result in estimated health-related benefits of $9.4 billion a year, while meeting more stringent state standards will produce $14.3 billion in benefits. Assuming the same per capita savings for Ventura County as for the South Coast Air Basin, the projected savings in health costs will be $45 to $69 million per year. Air pollution also causes significant damage to a wide range of materials, including rubber, plastics, paint and metals. The estimated national cost of damage to materials caused by ozone is $1.5 to $3.9 billion every year.

The effects of air pollution are more fully discussed in Chapter 3, "Effects of Air Pollution," and Appendix S-94, *The Effects of Air Pollution*.

1.3 Countywide Air Quality and Trends

The federal government has established ambient air quality standards to protect health (primary standards) and welfare, such as property and agriculture (secondary standards). The State of California has separate, more stringent standards. There are state and national standards for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM10, and lead. In addition, California has standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Ventura County Violates state and federal ozone standards and the state PM10 standard.

Ozone is readily formed above Ventura County and other areas of Southern California because of a combination of topographical, meteorological, and air

pollutant emission characteristics. Ozone is formed and transported in a layer of air that extends from the ground to about 4,000 feet in altitude and is called tropospheric ozone. There also is a layer of ozone at very high altitudes, called stratospheric ozone. Stratospheric ozone protects us from ultraviolet light, but does not interact with living things at the Earth's surface. Tropospheric ozone is formed when gaseous emissions from industrial and natural sources react chemically in combination with sunlight. Two classes of gaseous emissions must be present to form ozone: reactive organic compounds (ROC) and nitrogen oxides (NOx). These compounds, often called ozone precursors, change into many compounds as reactions occur. During this process, ozone is both created and destroyed, but under certain meteorological conditions, the ozone formation rate exceeds the rate of destruction, and concentrations increase.

The air above Ventura County often exhibits poor vertical and horizontal dispersion characteristics, which limit the dispersion of NOx and ROC. These poor dispersion conditions most often occur during the late spring, summer, and early fall. This period, where meteorology is conducive to ozone formation, is known as "smog season." During smog season, the temperature of the atmosphere increases as height above the ground increases, during night and morning hours. This condition is called a temperature inversion. The inversion acts as a lid on the air below and limits the vertical mixing of the atmosphere and the pollutants it contains. Also, weak winds in confined valleys result in poor horizontal dispersion. Winds during a typical summer day in Ventura County follow a land breeze pattern during morning hours and a sea breeze pattern during afternoon hours. This land/sea breeze regime recirculates air contaminants in the valleys open to the coast. Ozone and ozone precursors are pushed toward the ocean during the early morning by the land breeze, and to the east by the sea breeze. This creates a "sloshing" effect causing pollutants to remain in the area for several days. Emissions left over from previous days accumulate and chemically react with new emissions, thereby increasing ozone concentrations.

Over time, ozone concentrations have declined at most county air monitoring stations. In 1974, the county had 122 smoggy days (days with ozone levels over the federal standard). In 1980, the county had only 61 smoggy days; in

1990 there were only 18 smoggy days; and in 1993, only 13 days were over the federal standard. During the 1970s, first stage smog alerts (called when ozone levels are expected to exceed 0.20 parts per million) were common. Since 1980, however, there have been only two first stage smog alerts. Both alerts occurred in 1989 during unusual weather conditions. These air quality improvements have occurred despite a growing population. Between 1980 and 1990, Ventura County's population increased by 156,500, nearly a 31 percent increase. Although ozone levels declined significantly in recent years, the county still experiences frequent violations of the federal and state ozone standards.

Chapter 3 presents information on historical air quality data for Ventura County. Appendix M-94, *Ambient Air Quality Data (1977 - 1993)*, provides more detailed information.

1.4 1990 Baseline Emission Inventory

Chapter 5, "1990 Baseline Emission Inventory," and Appendix L-94, *1990 Baseline Emission Inventory Documentation*, present the baseline emission inventory used for the 1994 AQMP. The emission inventory indicates what pollutants affect Ventura County's air quality and classifies those emissions into emission source categories. Since air quality is directly related to emissions, it is vital to have a detailed air pollutant emission inventory.

The 1990 inventory is also used as the baseline for forecasting future year emissions. Emission inventories for future years are compared to 1990 emission levels to measure the progress towards attaining the federal ozone standard. Emission forecasts are presented in Chapter 9, "Emission Forecasts."

The 1990 baseline emission inventory shows that motor vehicle emissions are the major air pollution source in Ventura County. In the 1990 ozone planning inventory, total county NOx emissions were estimated to be 81 tons per day. About 55 percent of that is from on-road motor vehicles. Other mobile sources such as off-road vehicles, trains, and aircraft contribute another 13 tons per day (15 percent) of NOx emissions.

The second largest NOx emission category, fuel combustion, represents 17 tons per day (20 percent) of the inventory. About 40 percent of these emissions are attributable to electric utilities. Fuel combustion sources in the oil and gas industry generate 3 tons per day, while other commercial, industrial, and residential sources produce 7 tons per day of NOx. Emissions associated with ship traffic off the coast of Ventura County represent 10 percent of the overall NOx inventory.

Total county 1990 ROC emissions were estimated to be 87 tons per day. On-road motor vehicles represent 36 tons per day, or 40 percent of the planning inventory. Another 5 tons per day (five percent) are from other mobile sources. Organic solvents are the second largest category of ROC emissions in the inventory. Emissions from this category are 21 tons per day (25 percent). Surface coating operations produce 10 tons per day, or nearly half of the organic solvent category total. Oil and gas activities represent 8 tons per day (10 percent) and pesticide application activities contribute an additional 13 tons per day (15 percent) of ROC emissions.

1.5 Stationary Source Emission Control Measures

Since the 1979 AQMP, Ventura County's strategy for achieving the state and federal ozone standards has been to concurrently reduce ozone precursor ROC and NOx emissions from stationary and mobile sources. Ventura County was the first area in the country to institute a dual ROC/NOx strategy to attain federal and state ozone standards. Having recognized the importance of NOx in ozone formation, many other air pollution control agencies are now implementing ozone clean air plans that rely on reducing both ROC and NOx emissions.

Chapter 6, "Stationary Source Control Measures," presents the stationary source control measures recommended for inclusion in the 1994 AQMP as part of Ventura County's strategy to attain the federal and state ozone standards. From a control measure view point, the 1994 AQMP is essentially the readoption of the 1991 AQMP plus seven new District stationary source control measures. Also presented in Chapter 6 are stationary source further study control measures, stationary source control measures proposed for

exclusion from the 1994 AQMP, and stationary source regulations proposed by the EPA as part of the Federal Implementation Plan (FIP) for Ventura County. Mobile source control measures, including transportation control measures, are presented in Chapter 7, "Transportation and Mobile Source Control Measures." Appendix H-94, *Stationary Source Control Measure Documentation*, discusses each of the new stationary source control measures in more detail.

Stationary sources are nonmobile emission sources such as dry cleaning equipment, surface coating operations, stationary industrial engines, and petroleum production and processing facilities. Mobile sources are motor vehicles such as automobiles, airplanes, marine vessels, and lawn, garden, and utility equipment.

Stationary source control measures are techniques and equipment for reducing air pollutant emissions from stationary sources. Examples of stationary source control measures include gasoline station vapor recovery systems, landfill gas recovery systems, and replacing internal combustion engines with electric motors. Control measures provide the framework from which rules are developed that reduce ROC and NOx emissions. Furthermore, the 1994 AQMP emission forecasts cannot reflect emission reductions from District rules unless the 1994 AQMP contains corresponding control measures.

Further study control measures are measures not proposed for adoption and implementation at this time due to inconclusive information regarding their technical feasibility, economic feasibility, or appropriateness for Ventura County. However, the emission control strategy recommended for the 1994 AQMP includes a commitment by the District to consider adopting each further study control measure by its respective consideration date.

No emission reductions have been estimated for any of the further study control measures. Hence, potential emission reductions from the further study measures are not reflected in the AQMP emission forecasts. Emission reduction estimates will be made for each further study control measure when it is evaluated for possible adoption by the District. Future AQMP updates

will incorporate emission reductions from any further study measure found to be suitable for implementation in Ventura County.

Stationary source control measures proposed for exclusion from the 1994 AQMP are measures that were identified in the 1991 AQMP but are not proposed to be retained in the 1994 AQMP. These measures are 1991 AQMP further study measures that the District has determined are not suitable or feasible for Ventura County.

The EPA proposed several stationary source regulations as part of the proposed Federal Implementation Plan (FIP) for Ventura County. Some of the proposed FIP regulations are recommended for adoption by the District as local regulations.

1.6 Transportation and Mobile Source Control Measures

Chapter 7 presents the transportation and mobile source control measures recommended for inclusion in the 1994 Plan as part of Ventura County's strategy to meet the federal and state ozone standards. It also presents further study mobile source control measures, control measures proposed for exclusion from the 1994 AQMP, and mobile source regulations proposed by the EPA as part of the FIP for Ventura County.

Transportation control measures (TCMs) are strategies to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for reducing motor vehicle emissions. Mobile source control measures, for this Plan, are non-TCM techniques that reduce air pollutants from mobile sources. Mobile sources can be grouped into two categories, on-road mobile and other mobile. On-road mobile sources include passenger cars, trucks, buses, and motorcycles. Other mobile sources include off-road vehicles, airplanes, locomotives, farm equipment, marine vessels, and lawn, garden, and utility equipment.

Several strategies can be used to reduce emissions from on-road vehicles, including trip elimination, vehicle substitution, vehicle miles traveled reduction, vehicle occupancy, and technological improvements. Nonroad

mobile source emissions are primarily reduced through technological improvements. The District is relying on a combination of ongoing locally-adopted transportation control measures, and state and federal mobile source control measures to reduce mobile source emissions in Ventura County. The District is also proposing that the TCMs presented in Chapter 7 be substituted for the TCMs approved by EPA in its conditional approval of the 1982 AQMP.

Additionally, Chapter 7 presents the motor vehicle emissions budget to be used for conformity purposes under Section 176(c) of the Clean Air Act. The chapter summarizes the requirements for transportation and general conformity, and outlines the District's commitment to adopt transportation and general conformity rules to comply with the conformity regulations adopted by the EPA in November 1993.

1.7 Energy Efficiency and Conservation

When the Ventura County Air Pollution Control Board adopted the 1991 AQMP, staff was directed to address energy conservation and efficiency in the 1994 AQMP to help improve air quality in Ventura County. Chapter 8, "Energy Efficiency and Conservation," was prepared in response to that directive.

Chapter 8 and its associated technical appendix, Appendix A-94, present options for promoting energy efficiency and conservation throughout Ventura County. The options for energy efficiency are presented as policy language for incorporation into local general plans, along with suggested programs for implementing various energy efficiency and conservation programs.

Suggested District strategies are listed at the end of Chapter 8. Appendix A-94 provides suggested energy efficiency general plan policies for local jurisdictions to adopt at their discretion. Appendix A-94 also suggests possible implementation programs for various energy efficiency programs. Neither Chapter 8 nor Appendix A-94 suggests or proposes any new District regulation or other legal mandates at this time.

The District does not have direct authority to control or regulate energy use in Ventura County. The District's interest lies in the fact that energy efficiency and conservation can contribute to regional ROC and NOx emission reductions. For example, use of more efficient gas burners in industrial facilities, and a more efficient transportation system or cleaner burning vehicles can help improve our air quality. However, energy efficiency programs can succeed in cleaning the air in Ventura County only if all parties participate. This includes local governments, businesses, and private citizens.

1.8 Emission Forecasts

Chapter 9, "Emission Forecasts," summarizes ROC and NOx emissions estimated to occur in future years. The forecasts are calculated from the 1990 base year emission inventory presented in Chapter 5. Appendix E-94, *Emission Forecasts Documentation*, documents how the emission forecasts are generated.

Emission forecasts are used as a tool for developing a clean air strategy to meet the federal ozone standard. They are also used in the Urban Airshed Model (UAM) to estimate the effect of the District's proposed control program on future air quality levels. (See Chapter 10, "Photochemical Modeling.")

Chapter 9 presents the following three emission forecast alternatives:

- The baseline control strategy forecast, Alternative 1, reflects emission reductions from control measures adopted as part of the 1991 AQMP that are already implemented. This forecast alternative does not include emission estimates from the new control measures proposed in Chapters 6 and 7.

- The proposed control strategy forecast, Alternative 2, reflects emission reductions from the control measures in Alternative 1 plus new or revised measures that have been developed for the 1994 AQMP. These measures, which are presented in Chapters 6 and 7, are proposed for adoption and represent the recommended 1994 AQMP control strategy.

- The Alternative 3 control strategy forecast is based on the Federal Implementation Plan (FIP) proposed for Ventura County on February 14, 1994 by EPA. This forecast includes FIP measures that are not already included in the District's proposed strategy, Alternative 2. The FIP control measures are described in Chapters 6 and Chapter 7. The FIP forecast, which includes Alternatives 1 and 2, is the most stringent of the three control alternatives.

Emission reductions from control measures designated as further study in Chapters 6 and 7 are not included in the emission forecasts.

To produce the emission forecasts, the District assigns each emission inventory category an activity indicator to predict the change in ROC and NOx emissions in response to projected future socioeconomic conditions. The forecasts also reflect implementation of emission control measures by the District, the ARB and other agencies.

Forecast Alternative 1 is the least effective strategy for reducing ROC and NOx emissions. In 2005, it will reduce ROC emissions by 34 percent and reduce NOx emissions by 25 percent, when compared to 1990 emission levels. Alternative 2 will reduce ROC emissions by 41 percent and NOx emissions by 30 percent. Alternative 3 is expected to reduce ROC emissions by 54 percent and NOx emissions by 52 percent from 1990 levels.

1.9 Photochemical Modeling

Chapter 10, "Photochemical Modeling," and Appendix B-94, *Urban Airshed Model Technical Documentation*, present and document the photochemical modeling performed for the 1994 AQMP.

Under provisions of Section 182(c)(2)(A) of the CAAA, the District must use a photochemical grid model to show that the federal ozone standard will be achieved by November 15, 2005. The EPA and the ARB recommend the Urban Airshed Model (UAM) as the appropriate photochemical grid model in California. The UAM is a state-of-the-science ozone computer simulation

model. The District used the latest EPA-approved version of the UAM for the 1994 AQMP.

The UAM was developed to address "what if" questions pertaining to emission reduction strategies for urban and regional areas such as Ventura County. The primary objective of the CAAA modeling requirement is to determine the amount of emission reductions necessary to attain the federal ozone clean air standard. A secondary objective is to determine the relative effectiveness of emission reduction strategies. The modeling also can provide a better understanding of the complex factors behind ozone formation in Ventura County.

The District's UAM modeling shows that, excluding the emission reductions associated with the proposed FIP regulations, the emission reductions from this Plan alone will not be adequate for Ventura County to meet the federal ozone standard by 2005. Therefore, attaining the federal ozone standard will require implementation of at least some FIP regulations.

1.10 Rate-of-Progress Calculations

Chapter 11, "Rate-of-Progress Calculations," presents calculations to show that Ventura County has complied with the rate-of-progress requirements of the federal 1990 Clean Air Act Amendments (CAAA).

Section 182(b)(1) of the CAAA required the District to submit a plan by November 15, 1993 to reduce VOC emissions by 15 percent between 1990 and 1996. Under the terms of the CAAA, this plan could not take credit for pre-1990 federal motor vehicle emission controls, federal vapor pressure limits on gasoline, corrections for deficient pre-1990 motor vehicle inspection and maintenance programs, and corrections for deficient stationary source control programs.

On October 19, 1993, the District's Air Pollution Control Board adopted the *1993 Ventura County 15 Percent Rate-of-Progess Plan* to comply with the CAAA. The Plan was submitted by the ARB to the EPA on November 15, 1993. Unfortunately, EPA determined the Plan to be incomplete because it

relied on emission reductions from measures that had not yet been adopted in final regulatory form.

As a result of additional work conducted by the District and the ARB, the District has significantly revised its calculations of the emission reductions needed to meet the CAAA 15 percent emission reduction target for 1996. Based on these revised calculations, Ventura County will easily meet the 15 percent target. The District therefore requests that the revised 1996 target year calculations presented in Chapter 11 be substituted for the calculations in presented in Chapter 5 of the *1993 Ventura County 15 Percent Rate-of-Progess Plan.*

Section 182(c)(2) of the CAAA also requires the District submit a plan by November 15, 1994 to provide for a nine percent reduction in VOC emissions over each consecutive three-year period between 1996 and 2005. This means that in addition to the 15 percent reduction required by 1996, an additional nine percent reduction is required by 1999, an additional nine percent is required by 2002, and yet another nine percent reduction is required by 2005. As with the 15 percent reduction, credit cannot be taken for pre-1990 federal motor vehicle emission controls, federal vapor pressure limits on gasoline, corrections for deficient pre-1990 motor vehicle inspection and maintenance programs, and corrections for deficient stationary source control programs.

However, for the target years following 1996, the CAAA does not include the same prohibition on the use of NOx emission reductions to meet the emission reduction targets. Based on the calculations provided in Chapter 11, Ventura County will be able to meet the requisite emission reduction targets for 1999, 2002 and 2005.

Since 1979, the District, along with most other local California air districts, has departed from EPA guidance by including ethane, a moderately reactive organic compound, in its forecasts of reactive organic compounds. To avoid confusion, the District uses the term "reactive organic compounds" (ROC) in place of "volatile organic compounds." This Plan uses the District's definition of reactive organic compounds (including ethane) to maintain consistency with previous planning efforts and ongoing District programs. ARB staff has

previously determined that, for Ventura County, the Rate-of-Progress calculations based on reactive organic compounds will yield the same results as calculations based on the EPA definition for "volatile organic compounds." Therefore, for this Plan, the terms can be used synonymously.

1.11 Contingency Measures

Sections 172(c)(9) and 182(c)(9) of the CAAA require the 1994 AQMP to include contingency measures to be undertaken if an area fails to make "reasonable further progress" or meet any applicable Rate-of-Progress milestone. Contingency measures must take effect without further rulemaking activities (such as public hearings or legislative review) by the District or the EPA. The Rate-of-Progress calculations presented in Chapter 11 indicate that for each target year from 1996 to 2005, the District's emission control program will result in emission reductions sooner than required by CAAA Sections 182(b)(1) and 182(c)(2). These early reductions satisfy the Section 172(c)(9) and Section 182(c)(9) interim progress and Rate-of-Progress milestone contingency requirements.

Section 172(c)(9) of the CAAA also requires that the District submit contingency measures to be undertaken if Ventura County fails to meet the federal ozone standard by November 15, 2005. These contingency measures must be above and beyond the reductions needed to demonstrate attainment of the ozone standard. To satisfy the Section 172(c)(9) attainment contingency provisions, the District has identified three contingency measures: 1) Agricultural Waste Burning, 2) Accelerated Vehicle Retirement; and, 3) Emission Fee Surcharge of $5,000 per ton of emissions, to be applied to air pollution sources that emit 25 or more tons per year of ROC. These measures are discussed in more detail in Chapter 12.

1.12 Implementation of the 1994 Plan

The 1994 Air Quality Management Plan was prepared by the District primarily to satisfy various mandates of the 1990 federal Clean Air Act Amendments. Chapter 13 presents an overview of submittals required by the CAAA and the court-mandated FIP being prepared by the EPA.

This Plan will also be submitted to the ARB to satisfy various requirements of the California Clean Air Act (CCAA). These include requirements to submit a triennial progress report and revisions to the 1991 AQMP by the end of 1994. Other requirements also apply to this Plan to satisfy overall CCAA plan submittal requirements. Chapter 13 provides a "road map" that identifies how each CCAA requirement is satisfied by information provided in this Plan.

The 1994 AQMP relies on the efforts of many agencies to implement various clean air programs in Ventura County. These agencies include: each of the ten cities in Ventura County, the County of Ventura, the Ventura County Transportation Commission, local transit agencies (South Coast Area Transit, the cities of Simi Valley and Thousand Oaks, and the County of Ventura), the California Department of Transportation, the California Air Resources Board, the California Bureau of Automotive Repair, the U.S. Environmental Protection Agency, and the District.

Since the District's UAM modeling has demonstrated that some of EPA's FIP controls will be needed to demonstrate attainment of the federal ozone standard, the District will need to revise this Plan in 1995 after the EPA has issued its final FIP regulations. The District also anticipates that the 1995 revision will resolve any inconsistencies between this Plan and the final FIP in the areas of emission inventory, emission forecasts, motor vehicle emission budgets, control measures, and photochemical modeling. The District anticipates release of the 1995 AQMP revision in mid-year.

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

March 9, 2005

Paul J. Van Kerkhove, P.E.
Air Quality Engineer
Ecology and Environment, Inc.
368 Pleasant View Drive
Lancaster, New York 14086

Re: Comments to the Preliminary Draft General Conformity Determination (Los Angeles County) – Cabrillo LNG Deepwater Port Project

Dear Mr. Kerkhove:

South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to review and comment on the above-referenced document (document).

Our primary concern is that the document did not include all the necessary information on potential air emissions. Specifically, general conformity analysis should include all the direct and indirect projected-related emissions at the regional level, but this document did not mention any ship activities and their associated emissions related to this project. We believe it's important to know whether and/or how ships will be crossing Los Angeles and Orange Counties coastal areas during the construction period and in the production phase, and the total projected-related ship emissions in the South Coast Air Basin (SCAB). Ship routes and emissions for both construction and production phases need to be addressed. Furthermore, this project involves two counties, Los Angeles and Ventura Counties. The document included only the Los Angeles County portion. We believe the document should include Ventura County portion as well, so we can better understand the extent and significance of project-related emissions and make a better evaluation.

The document concluded that general conformity determination is required for NOx, because NOx emissions exceed de minimis level. We have the following concerns regarding the de minimis application: (1) Currently both EPA's 1-hour ozone NAAQS and 8-hour ozone NAAQS are in effect. SCAB is designated as extreme nonattainment area for the 1-hour ozone NAAQS and severe nonattainment area for the 8-hour ozone NAAQS. We request the general conformity determination base on the 1-hour ozone extreme nonattainment threshold which is 10 tons per year, not the 25 tons per year threshold for the severe nonattainment, before the 1-hour ozone NAAQS is officially revoked; (2) Emission calculations should be based on the most recent approved emission factors. California Air Resources Board's (CARB's) EMFAC2002 contains the most recent approved on-road emission factors, not EMFAC2001 used in the document. SCAQMD has EMFAC2002 fleet composite emission factors posted on District's

website. Emissions can also be calculated for different vehicle classes and different vehicle technology groups from CARB's EMFAC2002 model directly. If necessary, District's CEQA or CARB's staff should be contacted to confirm appropriate factors; (3) Table A-5 in the document Appendix A used emissions factors in District's CEQA Air Quality Handbook Table A9-3-A. CEQA Table A9-3-A is for stationary equipment and Table A-5 in Appendix A is for mobile equipment. Table A9-3-A is the wrong table to apply. CEQA Table A9-8 (Estimating Emissions from Mobile Equipment) is more appropriate. Therefore, off-road mobile equipment emissions need to be recalculated. Please note that emission factors in CEQA handbook were prepared in 1993. Most of the factors are outdated. In general, new off-road factors are lowers because engines got cleaner over time. The most current off-road factors can be found in District's website under CEQA or in CARB's off-road model. If necessary, District's CEQA or CARB's staff should be consulted. It is required to state not only the sources of the emission factors, but also the rationale and justification of the assumptions (average load and efficiency, etc) applied for the emission calculations in the document; (4) The document concluded that NOx emissions exceed de minimis level, but no specific mitigation measures were identified in the document to reduce NOx emissions to conform. Based on the federal general conformity regulation, once it is determined that NOx pollutant exceeds de minimis level, mitigation measures are required to ensure that SIP budgets are not exceeded as a result of the project. The document needs to ensure that the necessary reductions for the general conformity determination are feasible and enforceable.

General conformity determination requires use of the emission budgets in the most recent approved SIP. SCAQMD's 2003 AQMP has been approved by CARB, but not by EPA. The most recent EPA approved SIP is 1997/99 SIP. Therefore, 1997/99 SIP is the applicable SIP for the conformity determination and its emission budgets should be referenced to determine the general conformity requirement. However, since it is unknown at this time when EPA would take actions on the 2003 AQMP, it is recommended that conformity analysis based on the 2003 AQMP continue to be retained in the document.

Although this document indicated that most of the project activities and emissions will take place in Ventura County, Los Angeles County gets downwind air quality effect from Ventura County emissions. Downwind air quality impact of the project from Ventura County needs to be addressed. The results of the analysis should ensure that this project does not cause or contribute to any new violation of any NAAQS in the SCAB. Lastly, SCAQMD staff is currently reviewing the Draft Environmental Impact Report (EIR) of the project, any comments through the EIR review process will be provided separately.

Thank you again for the opportunity to provide these comments. If you have any questions, please contact me at (909) 396-3104.

Sincerely,

Jill Whynot

Jill Whynot
Planning and Rules Manager

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

June 29, 2005

Commander Mark Prescott, Chief
Deepwater Ports Standards Division (G-MSO-5)
U.S. Coast Guard
Department of Homeland Security
2100 Second Street, S.W.
Washington, D.C. 20593

Re: Air Permit Application for Proposed Cabrillo Port

Dear Commander Prescott:

This letter is to inform you of our plans for moving forward with Clean Air Act permitting for the BHP Billiton LNG International, Inc. ("BHP") Cabrillo Port project pursuant to the Deepwater Port Act. Since the release of the Draft Environmental Impact Statement/Environmental Impact Review ("DEIS/DEIR") for the Cabrillo Port, EPA has continued to work with BHP to refine the details of the project to be proposed and to work with the Ventura County Air Pollution Control District ("District") and the California Air Resources Board ("CARB") to identify the air quality permitting requirements for such a project. As outlined below, the project now proposed by BHP includes a number of commitments to achieve emission reductions from both offshore and onshore sources. Our current plan is to propose an Authority to Construct under District Rule 10, which requires permits for the construction of all emission units. We will incorporate additional permit conditions in accordance with District Rule 29 to assure compliance with applicable federal, state and local requirements. Based on the latest information provided by BHP on May 24, 2005, the emissions from the floating storage and regasification unit ("FSRU") will be 67.2, 169 and 24.8 tons per year of nitrogen oxides ("NOx"), carbon monoxide ("CO") and volatile organic compounds ("VOC"), respectively. We believe the applicable local rules do not require these emissions to be offset.

Nonetheless, the proposed project will include a number of elements to minimize its impacts on air quality. In this letter, we have summarized the commitments from BHP that should be reflected in the record for the DEIS/DEIR. We are enclosing a copy of BHP's June 7, 2005 letter to EPA outlining these same commitments (enclosure 1).

Controls on the submerged combustion vaporizers and internal combustion engines. On May 9, 2005, with supplements dated May 24 and May 27, 2005, BHP finalized its analysis of air emissions controls using the District rules for determining Best Available Control Technology ("BACT"). BHP's proposed project will control NOx emissions

from the internal combustion engines using selective catalytic reduction and will meet a NOx emissions limit of 8.9 ppmv. These engines will also be equipped with oxidation catalysts to control CO emissions. BHP will control NOx emissions from its submerged combustion vaporizer using low-NOx burner technology that will meet a NOx emission limit of 20 ppmv. We are enclosing a copy of BHP's most recent BACT analysis (enclosure 2), but encourage you to ensure that BHP has submitted its latest data and analyses associated with air impacts and permitting for the DEIS/DEIR record.

Commitment to use natural gas as fuel for all vessels. In lieu of diesel or bunker fuel, BHP has committed to use natural gas as the fuel for all carrier vessels while in U.S. waters and for all supply/crew vessels, tugs and other FSRU support vessels. BHP has submitted data comparing vessel emissions rates from various fuels. We are also enclosing a copy of this comparison (enclosure 3).

Commitment to minimize diesel fuel use on the FSRU. The submerged combustion vaporizers will operate exclusively on natural gas, and the internal combustion engines will use natural gas as their primary fuel. The project will include one internal combustion engine and several pieces of emergency equipment capable of operating on diesel fuel in the event of an emergency or in the event natural gas is not available. Any diesel used at the FSRU will meet California low-sulfur fuel standards to minimize potential emissions.

Onshore emission reduction projects. BHP will finalize plans to convert at least 45 garbage trucks used in Ventura County from diesel fuel to natural gas. BHP has also committed to explore and implement additional cost-effective emission reduction opportunities onshore up to the FSRU's annual NOx emissions. We will continue to work with BHP, the District and CARB to identify other potential emission reduction projects. We hope to identify these emission reduction opportunities before issuance of the air permit and anticipate these air quality enhancement projects will occur prior to commencement of operation of the BHP LNG project.

Natural gas quality standards. Finally, BHP has committed to explore limiting the heat content of the natural gas it imports. Such limits would reduce NOx emissions created from the combustion of this natural gas at other sources. At a minimum, BHP has committed to meet or exceed all natural gas pipeline quality standards applicable at the point of introduction.

Based on our further analysis of the Deepwater Port Act and the District rules, we have concluded offsets are not required for sources constructed in the area where BHP plans to site its FSRU, which is approximately 14 miles offshore from Ventura County. The District rules, generally speaking, include two sets of requirements - one for sources constructed on or near shore and one for sources constructed on the Channel Islands designated unclassifiable/attainment within the South Central Coast Air Basin. Since the proposed facility will be located in an area that falls between these two areas, EPA must exercise its discretion to determine which of these

two sets of requirements is more appropriately applied to the FSRU. As a result of this consideration, we plan to propose to permit the BHP facility in the same manner as sources in the federal attainment area would be permitted (i.e., in the same manner as sources on the Channel Islands). The applicable permit requirements, therefore, do not include a requirement to offset emissions from the new source/FSRU. Nonetheless, as described above, BHP has committed to reduce air emissions from their tankers, support vessels and FSRU equipment, and to pursue onshore emission reductions equivalent to the FSRU's annual NOx emissions.

The October 2004 DEIS/DEIR should be updated to reflect this new information on BHP's Port Cabrillo project. In particular, discussions on the elements of the project should be updated to reflect BHP's recent commitments, and statements regarding the need for offsets should be revised to reflect EPA's current understanding of the applicable District permitting requirements. If you have any questions on this matter or need any additional information from EPA, please contact Gerardo Rios at (415) 972-3974.

Sincerely,

Amy K. Zimpfer, P.E.
Associate Director
Air Division

enclosures

email distribution (enclosure 3 attached):

Mark Prescott, US Coast Guard
Frank Esposito, US Coast Guard
Francis Mardula, MARAD
Mike Villegas, Ventura County APCO
Mike Scheible, California Air Resources Board
Cy Oggins, State Lands Commision
Renee Klimczak , BHPBilliton